

We claim:

1. A process for improving the absorption characteristics of a fabric, the fabric being comprised of continuous conjugate filaments that are longitudinally separable into elementary filaments and having at least a first elementary filament material and a second elementary filament material, wherein said first filament material is substantially resistant to acid degradation and said second filament material is susceptible to acid degradation, said process comprising the steps of:

5 (a) subjecting the fabric to an acid-containing solution for a first determinate time and then rinsing, wherein the acid-containing solution degrades at least a portion of said second filament material; and

10 (b) subjecting the fabric to a basic solution for a second determinate time and then rinsing, wherein the basic solution makes said first filament material more hydrophilic.

15 2. The process of Claim 1 wherein the acid-containing solution contains an acid that is selected from the group consisting of hydrochloric acid, sulfuric acid, nitric acid, and phosphoric acid.

20 3. The process of Claim 1 wherein the acid-containing solution contains formic acid.

4. The process of Claim 1 wherein the acid-containing solution contains a sulfonic acid is selected from the group consisting of benzene sulfonic acid, naphthalene sulfonic acid, orthotoluene sulfonic acid, metatoluene sulfonic acid, paratoluene sulfonic acids, and alkylated aromatic sulfonic acids wherein the alkyl group may be a straight chain or branched chain and may contain from one to about 20 carbon atoms.

25 5. The process of Claim 4 wherein the sulfonic acid is paratoluene sulfonic acid.

6. The process of Claim 5 wherein the concentration of paratoluene sulfonic acid in the acidic solution is from about 0.25 % to about 3.0%, based on the weight of the bath.

30 7. The process of Claim 6 wherein the concentration of paratoluene sulfonic acid in the acidic solution is from about 1.0% to about 3.0%, based on the weight of the bath.

8. The process of Claim 7 wherein the concentration of paratoluene sulfonic acid in the acidic solution is about 2.0%, based on the weight of the bath.

9. The process of Claim 4 wherein the first determinate time is from about 30 minutes to about 5 120 minutes.

10. The process of Claim 9 wherein the first determinate time is about 90 minutes.

11. The process of Claim 1 wherein the basic solution contains a base selected from the group 10 of the hydroxides of alkali metals, the hydroxides of alkaline earth metals, and amines.

12. The process of Claim 11 wherein the basic comprises potassium hydroxide.

13. The process of Claim 11 wherein the basic comprises sodium hydroxide.

15 14. The process of Claim 13 wherein the concentration of sodium hydroxide in the basic solution is from about 0.025% to about 0.10%, based on the weight of the bath.

15 20 15. The process of Claim 14 wherein the concentration of sodium hydroxide in the basic solution is about 0.050%, based on the weight of the bath.

16. The process of Claim 1 wherein the second determinate time is about 30 minutes.

17. The process of Claim 1 wherein the fabric is further subjected to application of a hand- 25 building agent after step (b).

18. The process of Claim 1 wherein the fabric is further subjected to application of a soil-release agent after step (b).

30 19. The process of Claim 1 wherein the fabric is subjected to high pressure hydroentanglement before step (a).

20. The process of Claim 1 wherein said first filament material that is substantially resistant to acid degradation is a polyester-like material selected from the group consisting of

polyethylene terephthalate (PET), polybutylene terephthalate (PBT), polytrimethylene terephthalate (PTT), and polylactic acid (PLA).

21. The process of Claim 20 wherein said first filament material is polyethylene terephthalate  
5 (PET).

22. The process of Claim 1 wherein said second filament material that is susceptible to acid degradation is a polyamide selected from the group consisting of nylon 6, nylon 6 6, nylon 1 10 1, and nylon 610.

23. The process of Claim 22 wherein said second filament material is nylon 6.

24. The process of Claim 1 wherein said fabric has a nonwoven construction.

15 25. The product of the process of Claim 1.

26. The product of the process of Claim 19.

20 27. A process for improving the absorption characteristics of a fabric, said fabric being comprised of continuous conjugate filaments that are longitudinally separable into elementary filaments and having at least a first elementary filament material and a second elementary filament material, wherein said first filament material is substantially resistant to acid degradation and said second filament material is susceptible to acid degradation, said process comprising subjecting said fabric to an acid-containing solution for a determinate time and then rinsing, wherein the acid-containing solution wherein the acid-containing 25 solution degrades at least a portion of said second filament material

30 28. The process of Claim 27 wherein the acid-containing solution contains an acid that is selected from the group consisting of hydrochloric acid, sulfuric acid, nitric acid, and phosphoric acid.

29. The process of Claim 27 wherein the acid-containing solution contains formic acid.

30. The process of Claim 27 wherein the acid-containing solution contains a sulfonic acid that is selected from the group consisting of benzene sulfonic acid, naphthalene sulfonic acid, orthotoluene sulfonic acid, metatoluene sulfonic acid, paratoluene sulfonic acids, and alkylated aromatic sulfonic acids wherein the alkyl group may be a straight chain or  
5 branched chain and may contain from one to about 20 carbon atoms.

31. The process of Claim 29 wherein the sulfonic acid is paratoluene sulfonic acid.

32. The process of Claim 31 wherein the concentration of paratoluene sulfonic acid in the acidic  
10 solution is from about 0.025% to about 3.0%, based on the weight of the bath.

33. The process of Claim 32 wherein the concentration of paratoluene sulfonic acid in the acidic solution is from about 1.0% to about 3.0%, based on the weight of the bath.

15 34. The process of Claim 33 wherein the concentration of paratoluene sulfonic acid in the acidic solution is about 2.0%, based on the weight of the bath.

35. The process of Claim 27 wherein the determinate time is from about 30 minutes to about  
120 minutes.

20 36. The process of Claim 35 wherein the determinate time is about 90 minutes.

37. The process of Claim 27 wherein the fabric is further subjected to application of a hand-building agent.

25 38. The process of Claim 27 wherein the fabric is further subjected to application of a soil-release agent.

39. The process of Claim 27 wherein the fabric is subjected to high pressure hydroentanglement  
30 before being subjected to the acid-containing solution.

40. The process of Claim 27 wherein said first filament material that is substantially resistant to acid degradation is a polyester-like material selected from the group consisting of

polyethylene terephthalate (PET), polybutylene terephthalate (PBT), polytrimethylene terephthalate (PTT), and polylactic acid (PLA).

41. The process of Claim 41 wherein said first filament material that is substantially resistant to  
5 acid degradation is polyethylene terephthalate (PET).

42. The process of Claim 27 wherein said second filament material that is susceptible to acid degradation is a polyamide selected from the group consisting of nylon 6, nylon 6 6, nylon 1 1, and nylon 610.

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43. The process of Claim 42 wherein said second filament material is nylon 6.

44. The process of Claim 27 wherein said fabric has a nonwoven construction.

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45. The product of the process of Claim 27.

46. The product of the process of Claim 39.

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